

9/04/13

- Go over homework (Worksheet 2 - More Segment Addition)
- Review Worksheet
- Quiz Tomorrow!

Name ANSWER KEY

Period _____

Geometry Unit 1 Worksheet 2

More Segment Addition

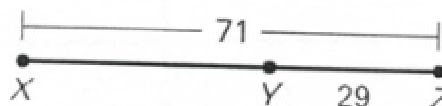
Use the Segment Addition Postulate to find the indicated length

1. Find NQ .



$$\begin{aligned} NP + PQ &= NQ \\ 4 + 17 &= NQ \\ 21 &= NQ \end{aligned}$$

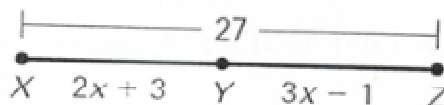
2. Find XY .



$$\begin{aligned} XY + YZ &= XZ \\ XY + 29 &= 71 \\ -29 \quad -29 & \end{aligned}$$

$$XY = 42$$

3. Find YZ .



$$\begin{aligned} XY + YZ &= XZ \\ 2x + 3 + 3x - 1 &= 27 \end{aligned}$$

$$\begin{aligned} 5x + 2 &= 27 \\ -2 \quad -2 & \\ 5x &= 25 \\ \frac{5x}{5} &= \frac{25}{5} \end{aligned}$$

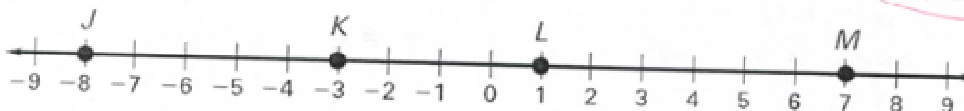
$$x = 5$$

$$YZ = 3x - 1$$

$$YZ = 3(5) - 1$$

$$YZ = 14$$

Use the number line to find the indicated distance.



$$\begin{aligned} 4. JK &= |-8 - (-3)| \\ &= |-8 + 3| \\ &= |-5| \\ &= 5 \end{aligned}$$

$$\begin{aligned} 5. KL &= |-3 - 1| \\ &= |-4| \\ &= 4 \end{aligned}$$

$$\begin{aligned} 6. LM &= |1 - 7| \\ &= |-6| \\ &= 6 \end{aligned}$$

$$\begin{aligned} 7. JL &= |-8 - 1| \\ &= |-9| \\ &= 9 \end{aligned}$$

$$\begin{aligned} 8. JM &= |-8 - 7| \\ &= |-15| \\ &= 15 \end{aligned}$$

$$\begin{aligned} 9. KM &= |-3 - 7| \\ &= |-10| \\ &= 10 \end{aligned}$$

Line ℓ bisects the segment. Find the indicated length.

10. Find AC if $AB = 6$ cm.



$$\begin{aligned} AB + BC &= AC \\ 6 + 6 &= AC \\ \underline{12} &= AC \end{aligned}$$

11. Find DF if $DE = 17$ cm.



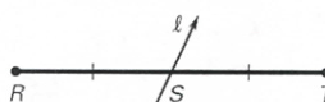
$$\begin{aligned} DE + EF &= DF \\ 17 + 17 &= DF \\ \underline{34} &= DF \end{aligned}$$

12. Find NP if $NQ = 31.8$ cm.



$$\begin{aligned} NP + PQ &= NQ \\ 2NP &= NQ \\ \frac{2NP}{2} &= \frac{31.8}{2} \\ NP &= 15.9 \end{aligned}$$

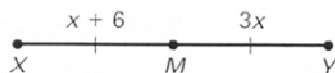
13. Find ST if $RT = 109$ in.



$$\begin{aligned} RS + ST &= RT \\ 2ST &= RT \\ \frac{2ST}{2} &= \frac{109}{2} \\ ST &= 54.5 \end{aligned}$$

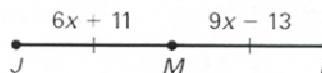
In each diagram, M is the midpoint of the segment. Find the indicated length.

14. Find XM .

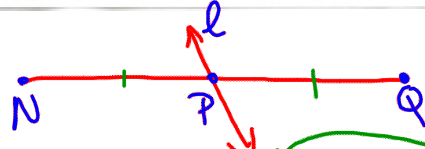


$$\begin{aligned} XM &= MY \\ x + 6 &= 3x \\ -x & \quad -x \\ \hline 6 &= 2x \\ \frac{6}{2} &= \frac{2x}{2} \\ 3 &= x \\ XM &= x + 6 \\ XM &= (3) + 6 \\ \underline{XM} &= \underline{9} \end{aligned}$$

15. Find JK .



$$\begin{aligned} JM &= MK \\ 6x + 11 &= 9x - 13 \\ -6x & \quad -6x \\ \hline 11 &= 3x - 13 \\ +13 & \quad +13 \\ \hline 24 &= 3x \\ \frac{24}{3} &= \frac{3x}{3} \\ 8 &= x \\ JK &= JM + MK \\ JK &= 6x + 11 + 9x - 13 \\ JK &= 15x - 2 \\ JK &= 15(8) - 2 \\ JK &= 120 - 2 \\ \underline{JK} &= \underline{118} \end{aligned}$$

12. 

FIND NP IF $NQ = 31.8$

$$\begin{aligned} NP + PQ &= NQ \\ NP + NP &= NQ \\ 2NP &= 31.8 \\ \frac{2NP}{2} &= \frac{31.8}{2} \\ NP &= 15.9 \end{aligned}$$

$NP = PQ$